UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/787,201	02/27/2004	Craig Allan Dunk	30889-2004	4692

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PERRY + CURRIER (FOR RIM) 1300 YONGE STREET SUITE 500 TORONTO, ON M4T-1X3 CANADA	HAILU, KIBROM T

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
Office Action Summary	10/787,201	DUNK, CRAIG ALLAN
	Examiner	Art Unit	.
	Kibrom T. Hailu	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>03 October 2007</u>.

2a)☒ This action is **FINAL.**   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>27 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)	4) ☐ Interview Summary (PTO-413)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)	Paper No(s)/Mail Date. _____ .
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)	5) ☐ Notice of Informal Patent Application
Paper No(s)/Mail Date _____.	6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claim 20 is objected to because of the following informalities: link "(42)" is unnecessary

because link is already mentioned in claims 1 and 19 without "(42)". It is also clear from the

specification and/or the figures that the link number is 42. Appropriate correction is required.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or
> any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and
> requirements of this title.

3.   Claim 16 is rejected under 35 U.S.C. 101 because the claim is directed to non-statutory

subject matter.

The claim is non-statutory because the applicant claims "a computer-readable storage

medium containing a set of instructions for an electronic device" without being executed by a

computer or a processor. Therefore, the claim does not require any produce useful, concrete, and

tangible results [see MPEP 2106.01].

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making
> and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it
> pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode
> contemplated by the inventor of carrying out his invention.

5.   Claims 24-26 and 34-37 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one skilled in the

relevant art that the inventor(s), at the time the application was filed, had possession of the

claimed invention.

The limitations "determined quality is a transmission profile, said transmission profile is

a record of successful transmissions from said device or of signal strengths for a previous time

period, said previous time period is 10 seconds and configuring to develop said retry strategy as

a mirror of said transmission profile" were not described in the limitation. The Examiner read the

specification. However, the above limitations were not found in the specification. Appropriate

correction is required.

6.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the
> subject matter which the applicant regards as his invention.

7.   Claims 1, 5 and 16 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

The claims 1, 5 and 6 recite the limitation "said electronic device" in lines 6-7, 2 and 4,

respectively. There are insufficient antecedent basis for these limitations in the claims.

Claim Rejections - 35 USC § 103

8.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

9.   The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459

(1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

    1.   Determining the scope and contents of the prior art.
    2.   Ascertaining the differences between the prior art and the claims at issue.
    3.   Resolving the level of ordinary skill in the pertinent art.
    4.   Considering objective evidence present in the application indicating obviousness
        or nonobviousness.

10.   Claims 1, 3, 10, 16-23 and 28-33 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Zombek et al. (US 6,704,768 B1) in view of Meyer et al. (US 7,203,167 B2),

and further in view of Reidel et al. (US 7,289,453 B2) and Stephens (US 2004/0258039 A1).

    Regarding claims 1, 3 and 17-23, Zombek discloses a method of delivering packets over

a link (Figs. 1A and 2) comprising the step of: transmitting at least one packet over said link via

a first layer of a protocol stack employed by said link employing to plurality of transmission

standards or wireless access protocols such GPRS, PSTN through PSTN gateway, GSM and son

on (Fig. 2; col. 35, lines 4-11, 51-61; col. 37, lines 12-19, 38-50; col. 2, lines 44-46; col. 3, lines

48-60; col. 43, lines 50-64; col. 10, lines 15-18; col. 44,lines 9-12, illustrates transferring or

exchanging messages or TCP, TCP/IP and UDP packets via the wireless link using transport

protocol). Zombek further discloses retransmitting, reattempting and/or retrying TCP and UDP

packets that are unacknowledged (col. 19, lines 31-37; col. 35, line 62-col. 36, line 7; col. 2, lines

44-59; col. 3, lines 48-60).

    Zombek doesn't explicitly disclose repeating said transmitting step until said transmitting

step fails or unacknowledged; determining a quality of said link at said electronic device by

examining quality-of-service (QoS) information inherently available within a second layer of

said protocol stack; said second layer being a different layer in said protocol stack than said first

layer; developing a retry strategy for said transmitting step based on said determined quality and,

retransmitting said at least one packet according to said retry strategy.

Meyer teaches repeating said transmitting step until said transmitting step fails or

unacknowledged (col. 1, lines 52-65, explains the sender continue transmitting data until

delivery unacknowledged or fails).

Reidel teaches determining a quality of said link at said electronic device by examining

quality-of-service (QoS) information inherently available within a second layer of said protocol

stack; said second layer being a different layer in said protocol stack than said first layer (col. 6,

lines 36-60; col. 7, lines 7-22; illustrates the monitoring the QoS of the link at the data link or

layer 2, which is different from the transport layer or layer 4).

Stephens teaches developing a retry strategy for said transmitting step based on said

determined quality (paragraph [0044]-[0047]; [0050]; [0053]; [0055]-[0059], etc., explains

developing, adjusting and/or adapting retry based on the quality or condition of the

communication link) and, retransmitting said at least one packet according to said retry strategy

(paragraph [0061]; [0065]-[0067] and so on, retransmitting those packets that are failed or

unacknowledged based on the retry that is allocated or developed).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made continue sending packets until failed to acknowledge, to determine quality

of the link at data link layer (layer 2), and develop retry strategy based on the quality of the link

and retransmit the packets that are unacknowledged as taught by Meyer, Reidel and Stephens,

respectively into the data transmission of Zombek in order to ensure reliability of data, to

manage the QoS, and to avoid latency.

Regarding claims 10, 12, 16 and 28-33, the claims include the features corresponding to

the subject matter mentioned above to the rejected claims 1, 3, 18-23, and the same rejection is

applied hereto.

11.   Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zombek

in view of Meyer, Reidel and Stephens and further in view of Haas et al. (US 6,912,387 B2).

As applied above, the modified transmission of Zombek discloses transmitting packets

until failure, retransmit the packet when failed according to the retry strategy, and continue

transmitting if the retransmission acknowledged. However, the modified transmission of Zombek

terminating said method if said re-transmitting step fails.

Haas teaches terminating said method if said re-transmitting step fails (Figs. 2 and 3; col.

4, line 50-col. 5, line 8; col. 6, lines 2-13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the technique of Haas, which teaches ending the transmission when

the retransmitted packet determined failure based on the retrying into the modified transmission

of Zombek in order to avoid latency, and thus ensure reliability and throughput.

12.   Claims 4-9, 13-15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Zombek in view of Meyer, Reidel and Stephens and further in view of Gage (US 2004/0151136

A1).

As applied above, the modified transmission of Zombek discloses determining quality of

a link at data link layer (layer 2) and transmitting the packets via transport layer (layer 4) of a

protocol stack to deliver packets. Note also that a service to deliver VOIP is well known in the art (e.g. see Stephens, paragraph [0036]).

The modified transmission of Zombek doesn't explicitly disclose determining second quality of a second link; the qualities of the links is based on at least one of the measurements of reachability and availability of a given service used for delivery of said packets; determination of which link has a more desirable quality, the least financial cost, and transparent to performance of given service being used for carrying said packets.

Gage teaches determining second quality of a second link (paragraph [0029]; [0039]; [0042], etc, illustrates determining or measuring a quality of another link than the first one); the qualities of the links is based on at least one of the measurements of reachability and availability of a given service used for delivery of said packets (paragraph [0058]; claims 19 and 27); determination of which link has a more desirable quality, the least financial cost, and transparent to performance of given service being used for carrying said packets (paragraph [0029]; [0032]; [0038]) and select one of the links based on quality (paragraph [0010]; [0045], illustrates selecting a link with based on the predetermined quality value or criteria. Note also that since the modified transmission of Zombek teaches retry strategy based on the quality, it is obvious for a skilled person in the art to realize selecting the link according retry strategies that are based on the qualities on the links).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate and determine the qualities of plurality of links based on reachability and/or availability, desirability or preference, financial cost, transparent to performance as taught by Gage into the modified transmission of Zombek in order to allow the

wireless device to more efficiently roam between various communication links without repeated terminations and re-establishments of the network connection.

13.   Claims 24-26 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zombek in view of Meyer, Reidel and Stephens and further in view of Hyziak et al. (US 5,682,460).

As applied above, the modified transmission of Zombek discloses retry strategy based on the determined quality of the link. However, the modified transmission of Zombek doesn't explicitly disclose determined quality is a transmission profile, said transmission profile is a record of successful transmissions from said device or of signal strengths for a previous time period, said previous time period is 10 seconds.

Hyziak teaches determined quality is a transmission profile, said transmission profile is a record of successful transmissions from said device or of signal strengths for a previous time period, said previous time period is 10 seconds (col. 4, line 62-col. 5, line 24, explains recording and reporting the status information such as successful delivery, failure, time of transmission or time stamp, elapsed time of transmission, quality of service, cost, acknowledgement and so on. Note also since Hyziak records the time of transmission (time stamp) and elapsed time of transmission, it is obvious for a person having skill in the art to realizing setting the previous transmission time to 10 seconds).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to develop a transmission profile by recording the transmission or information status in the previous time period or an elapsed time period as taught by Hyziak and incorporate it into the modified transmission of Zombek in order to permit a communication

system subscriber to select a set of preferences and associated constraints to be used during the

transmission of information within said communication system for reasons such as, but not

limited to: cost, security, urgency, reporting options, disposition requests, and/or spectral

efficiency, thus the subscriber or the sender may desire to route information over the network

exhibiting the highest throughput.

14.   Claims 37 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Zombek in view of Meyer, Reidel, Stephens and Hyziak, and further in view of Upadrasta (US

6,771,594 B1).

    Regarding claim 37, as applied above, the modified packet transmission of Zombek

discloses develop retry strategy and recording or profiling the transmission or information status.

However, the modified transmission of Zombek doesn't explicitly disclose computer processor

configuring to develop said retry strategy as a mirror of said transmission profile.

    Upadrasta teaches configuring to develop said retry strategy as a mirror of said

transmission profile (col. 7, lines 48-50, illustrates the profile indicates number of retries and

acknowledgements. In other words, retrying the TCP packets is according or mirror of the

profile).

    Therefore, it would have been obvious to one of ordinary skill in the art at the time the

invention was made to use retrying according to the user transmission profile as taught by

Upadrasta into the modified packet transmission of Zombek so that network conditions will be

deemed to have improved and either reliable and/or non-reliable mode would be used or entered.

    Regarding claim 38, the claim includes the features corresponding to the subject matter

mentioned above to the rejected claim 27, and the same rejection is applied hereto.

Conclusion

15.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kibrom T. Hailu whose telephone number is (571)270-1209. The examiner can normally be reached on Monday-Thursday 8:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Q. Ngo can be reached on (571)272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

K-Th
12/17/07

RICKY Q. NGO
SUPERVISORY PATENT EXAMINER